

SERVICE MANUAL

AUDIO MIXER PRO.MX-1200



®
iNKeL

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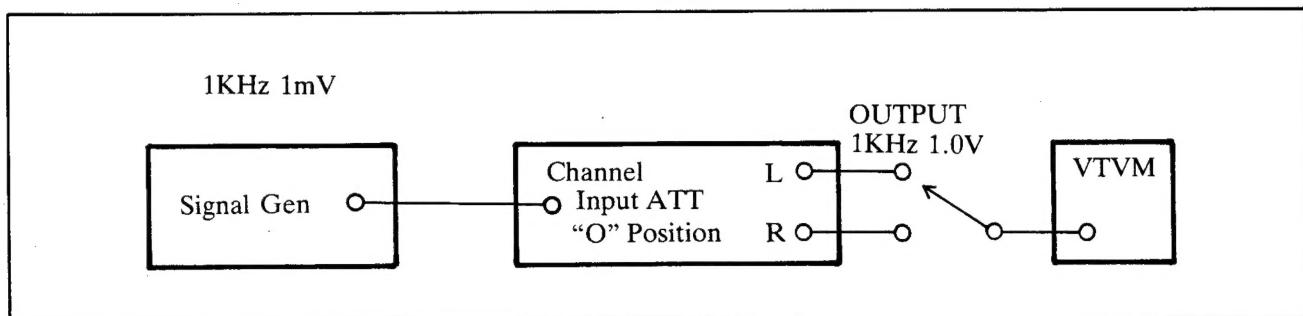
ELECTRICAL ADJUSTMENT PROCEDURE

1. OUTPUT LEVEL METER ADJUSTMENT

A. SETTING (CHANNEL 1)

Impedance sel	: High
Input ATT	: 0 position
High control	: Center
Mid control	: Center
Low control	: Center
Echo control	: 0 position
Pan control	: Center
Input volume control	: Max position

B. CONNECTION

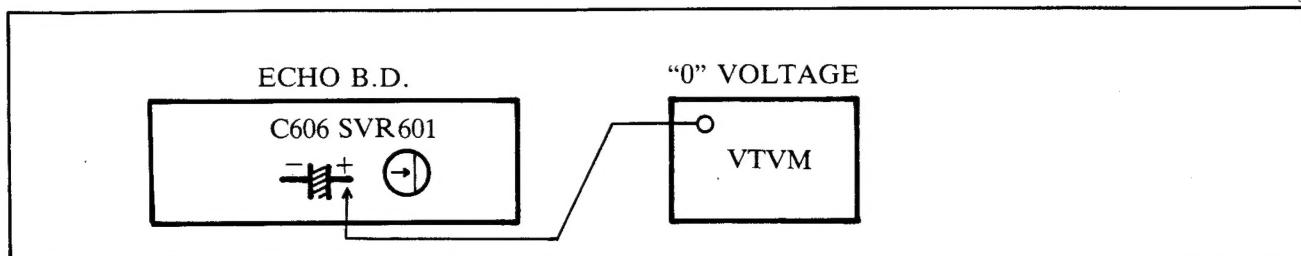


C. ADJUSTMENT

- (1) Apply a 1KHz input signal of 1mV
- (2) Adjust the master volume so that output voltage is 1V
- (3) Adjust SVR901A/B so that output level meter indicate "0dB" position.

2. ECHO NOISE ADJUSTMENT

A. CONNECTION



B. ADJUSTMENT

Adjust the SVR601 until the C606 6+ pin becomes "0" voltage.

SPECIFICATIONS

Rated Output Voltage (RMS) 1.2V ± 100mV

Input Sensitivity

CH 1,2,3,4 (Variable by Input ATT) 1mV to ∞ (at 1KHz)

CH 5,6,7,8,9,10 (Variable by Input ATT)

at Mic/Line function 1mV to ∞ (at 1KHz)

at Phono function 2mV to ∞ (at 1KHz)

Aux 1,2 1V (at 1KHz)

Total Harmonic Distortion at 20Hz to 20KHz

1.2V Output (Aux) 0.05%

Frequency Response at -3dB

at Input ATT 0 Position 33Hz to 20KHz

at Input ATT -20dB Position 27Hz to 47KHz

at Input ATT -40dB Position 27Hz to 54KHz

S/N Ratio

at Input ATT 0 Position 55dB (at 1KHz)

at Input ATT -20dB Position 61dB (at 1KHz)

at Input ATT -40dB Position 65dB (at 1KHz)

Aux 65dB (at 1KHz)

Tone Control

Bass at 100Hz ±15dB

Mid at 1KHz ±12dB

Treble at 10KHz ±15dB

Graphic EQ Effect

40Hz ±12dB

160Hz ±12dB

400Hz ±12dB

1KHz ±12dB

2.5KHz ±12dB

6.3KHz ±12dB

16KHz ±12dB

Phono Equalization RIAA±1dB

Echo Effect

Delay Time 0.04 — 0.4 Sec

Repeat 1 to 7 Times

Headphone Output (at 1KHz 8 ohm Load) . . . 1.5mW

PARTS LIST

Ref No.	Parts No.	Description	Q'ty	Ref No.	Parts No.	Description	Q'ty
4003518700 SUB PCB MIC				4003518500 SUB PCB STEREO			
IC101, IC102	2168220104	NJM4558D JRC	8	C217, C218	3509509030	CAP C 5PF 50V C	2
T101	2808000100	TRANSFORMER IT-172	4	C203	3509330130	CAP C 33PF 50V J	2
C101, C117	3409210971	CAP E 1uF 50V	8	C211	3509560130	CAP C 56PF 50V J	2
C102, C113	3409210071	CAP E 10uF 50V	12	C219	3609102120	CAP M 0.001uF 100V J	2
C114				C208	3609152120	CAP M 0.0015uF 100V J	2
C103, C104,	3409247031	CAP E 47uF 16V	16	C201	3609822120	CAP M 0.0082uF 100V J	2
C115, C116				C209, C210	3609562120	CAP M 0.0056uF 100V J	4
C107	3509509030	CAP C 5PF 50V C	4	C212, C213	3609473120	CAP M 0.047uF 100V J	4
C112	3509830130	CAP C33PF 50V J	4				
C106	3509560130	CAP C56PF 50V J	4				
C105	3609102120	CAP M 0.001uF 100V J	4				
C108, C109	3609562120	CAP M 0.0056uF 100V J	8				
C110, C111	3609473120	CAP M 0.047uF 100V J	8				
R121, R122	3009330273	RES CF 33 $\frac{1}{4}$ W J N	8				
R106, R110	3009470273	RES CF 47 $\frac{1}{4}$ W J N	8				
R103	3009101273	RES CF 100 $\frac{1}{4}$ W J N	4				
R118	3009102273	RES CF 1K $\frac{1}{4}$ W J N	4				
R102	3009152273	RES CF 1.5K $\frac{1}{4}$ W J N	4				
R117	3009332273	RES CF 3.3K $\frac{1}{4}$ W J N	4				
R105, R107	3009562273	RES CF 5.6K $\frac{1}{4}$ W J N	16				
R115, R119							
R109, R112	3009103273	RES CF 10K $\frac{1}{4}$ W J N	8				
R111, R113	3009273273	RES CF 27K $\frac{1}{4}$ W J N	8				
R124, R125,	3009333273	RES CF 33K $\frac{1}{4}$ W J N	12				
R126							
R116	3009473273	RES CF 47K $\frac{1}{4}$ W J N	4				
R114	3009563273	RES CF 56K $\frac{1}{4}$ W J N	4				
R104, R120	3009104273	RES CF 100K $\frac{1}{4}$ W J N	8				
R108, R123	3009334273	RES CF 330K $\frac{1}{4}$ W J N	8				
4003518300 SUB PCB PHONO							
IC201, IC202	2168220104	NJM4558D JRC	4				
R222, R223	3009330273	RES CF 33 $\frac{1}{4}$ W J N	4				
R208, R211	3009470273	RES CF 47 $\frac{1}{4}$ W J N	4				
R204	3009101273	RES CF 100 $\frac{1}{4}$ W J N	2				
R206	3009391273	RES CF 390 $\frac{1}{4}$ W J N	2				
R219	3009102273	RES CF 1K $\frac{1}{4}$ W J N	2				
R218	3009332273	RES CF 3.3K $\frac{1}{4}$ W J N	2				
R207, R208	3009562273	RES CF 5.6K $\frac{1}{4}$ W J N	8				
R216, R220							
R210, R214	3009103273	RES CF 10K $\frac{1}{4}$ W J N	4				
R212, R213	3009273273	RES CF 27K $\frac{1}{4}$ W J N	4				
R202, R225,	3009333273	RES CF 33K $\frac{1}{4}$ W J N	8				
R226, R227							
R217	3009473273	RES CF 47K $\frac{1}{4}$ W J N	2				
R215	3009563273	RES CF 56K $\frac{1}{4}$ W J N	2				
R203	3009823273	RES CF 82K $\frac{1}{4}$ W J N	2				
R205, R221	3009104273	RES CF 100K $\frac{1}{4}$ W J N	4				
R201, R224	3009334273	RES CF 330K $\frac{1}{4}$ W J N	4				
C204, C214	3409210971	CAP E 1uF 50V	4				
C215, C216	3409210071	CAP E10uF 50V	4				
C205	3409233031	CAP E 33uF 16V	2				
C206, C207,	3409247031	CAP E 47uF 16V	8				
				C301A,B	3509509030	CAP C 5PF 50V C	4

Ref No.	Parts No.	Description	Q'ty	Ref No.	Parts No.	Description	Q'ty
C316A,B	3509330130	CAP C 33PF 50V J	4	R437	3009224273	RES CF 220K $\frac{1}{4}$ W J N	1
C305A,B	3509560130	CAP C 56PF 50V J	4	R435A,B	3009335273	RES CF 3.3M $\frac{1}{4}$ W J N	2
C308A,B	3609102120	CAP M 0.001uF 100V J	4	C410E,F	3409210971	CAP E 0.47uF 50V	2
C303A,B	3609152120	CAP M 0.0015uF 100V J	4	C409E,F	3409210971	CAP E 1uF 50V	3
C302A,B	3609822120	CP M 0.0082uF 100 V J	4	C417			
C310A,B,	3609562120	CAP M 0.0056uF 100V J	8	C408E,F	3409222971	CAP E 2.2uF 50V	2
C311A,B				C407E,F	3409247971	CAP E 4.7uF 50V	2
C312A,B,	3609473120	CAP M 0.047uF 100V J	8	C401A,B	3409210071	CAP E 10uF 50V	8
C313A,B				C406E,F			
4003518600 SUB PCB EQ				C412A,B			
IC401, IC402	2168220104	NJM4558D JRC	10	C415A,B			
IC403, IC404,				C405E,F	3409222041	CAP E 22uF 25V	2
IC405, IC406,				C404E,F,	3409247031	CAP E 47uF 16V	8
IC407, IC408,				C411A,B,			
IC409, IC410				C414A,B,			
TR401A,B	2018207110	FET N-CH 2SK30A TMY	2	C416A,B			
R433A,B	3009330273	RES CF 33 $\frac{1}{4}$ W J N	2	C413A,B	3509330130	CAP C 33PF 50V J	2
R431A,B	3009470273	RES CF 47 $\frac{1}{4}$ W J N	2	C402A,B,	3509101130	CAP C 100PF 50V J	4
R401A,B	3009101273	RES CF 100 $\frac{1}{4}$ W J N	2	C403A,B,C,D	3609222120	CAP M 0.0022uF 100V J	4
R407A,B	3009151273	RES CF 150 $\frac{1}{4}$ W J N	14	C409A,B,C,D	3609562120	CAP M 0.0056uF 100V J	4
R410A,B,				C408A,B,C,D	3609153120	CAP M 0.015uF 100V J	4
R413A,B,				C407A,B,C,D	3609393120	CAP M 0.039uF 100V J	4
R416A,B,				C406A,B,C,D	3609104120	CAP M 0.1uF 100V J	4
R419A,B,				C405A,B,C,D	3639334110	CAP MT 0.33uF 50V J	4
R422A,B				C404A,B,C,D	3639105110	CAP MT 1uF 50V J	4
R425A,B				4003518110 SUB PCB PFL			
R428A,B	3009221273	RES CF 220 $\frac{1}{4}$ W J N	2	IC501, IC502	2168220104	NJM 4558D JRC	2
R409A,B,	3009102273	RES CF 1K $\frac{1}{4}$ W J N	16	TR501A,B	2008206105	TR PNP KTA1015Y KEC	2
R412A,B,				TR502A,B	2008606104	TR NPN KTC1815Y KEC	2
R415A,B,				R514, R515	3009330273	RES CF 33 $\frac{1}{4}$ W J N	2
R418A,B,				R512, R513	3009470273	RES CF 47 $\frac{1}{4}$ W J N	2
R421A,B,				R505A,B,	3009102273	RES CF 1K $\frac{1}{4}$ W J N	4
R424A,B,				R507A,B			
R427A,B,				R502, R503	3009332273	RES CF 3.3K $\frac{1}{4}$ W J N	2
J401A,B,				R506A,B	3009331273	RES CF 330 $\frac{1}{4}$ W J N	2
R430A,B	3009222273	RES CF 2.2K $\frac{1}{4}$ W J N	2	R507A,B	3009103273	RES CF 10K $\frac{1}{4}$ W J N	2
R441, R442	3009332273	RES CF 3.3K $\frac{1}{4}$ W J N	2	R511	3009153273	RES CF 15K $\frac{1}{4}$ W J N	1
R434A,B,	3009472273	RES CF 4.7K $\frac{1}{4}$ W J N	3	R509A,B	3009473273	RES CF 47K $\frac{1}{4}$ W J N	2
R436				R501, R504	3009393273	RES CF 39K $\frac{1}{4}$ W J N	2
R402A,B,	3009562273	RES CF 5.6K $\frac{1}{4}$ W J N	8	R510A,B,	3009104273	RES CF 100K $\frac{1}{4}$ W J N	4
R403A,B,				R517, R518			
R404A,B,				R516	3009154273	RES CF 150K $\frac{1}{4}$ W J N	1
R405A,B				R508A,B	3009334273	RES CF 330K $\frac{1}{4}$ W J N	2
R408A,B,	3009183273	RES CF 18K $\frac{1}{4}$ W J N	14	C501, C505A,	3409210971	CAP E 1uF 50V	5
R411A,B,				B, C507, C508			
R414A,B,				C506A,B,	3409247871	CAP E 4.7uF 50V	4
R417A,B,				C512, C513			
R420A,B,				C502A,B	3409222041	CAP E 22uF 25V	2
R423A,B,				C503A,B,	3409247031	CAP E 47uF 16V	4
R426A,B				C509, C510			
R406A,B	3009223213	RES CF 22K $\frac{1}{4}$ W J N	2	C511	3509330130	CAP C 33PF 50V J	1
R432A,B	3009333273	RES CF 33K $\frac{1}{4}$ W J N	2	C504A,B	3509560130	CAP C 56PF 50V J	2
R439, R440	3009393273	RES CF 39K $\frac{1}{4}$ W J N	2	4003518010 SUB PCB ECHO			
R429A,B	3009473273	RES CF 47K $\frac{1}{4}$ W J N	2	6			
R438	3009154273	RES CF 150K $\frac{1}{4}$ W J N	1				

Ref No.	Parts No.	Description	Q'ty
IC601	2168010102	MN3101 MATSU	1
IC602	2168010103	MN3007 MATSU	1
IC603	2168220104	NJM4558DD JRC	1
TR601, TR602	2008606101	TR NPN KTC732 TM BL KEC	2
D601, D602	2058304100	DIODE CDG24 FAIR	2
SVR601	3248310320	RES SEMI CS10KB 10/5	1
R603, R615	3009151273	RES CF 150K $\frac{1}{4}$ W J N	2
R609, R613	3009682273	RES CF 6.8K $\frac{1}{4}$ W J N	2
R608, R611	3009123273	RES CF 12K $\frac{1}{4}$ W J N	2
R618, R623, R624	3009333273	RES CF 33K $\frac{1}{4}$ W J N	3
R607, R610, R612, R614	3009393273	RES CF 39K $\frac{1}{4}$ W J N	4
R604, R605, R621, R622	3009104273	RES CF 100K $\frac{1}{4}$ W J N	4
R617	3009124273	RES CF 120K $\frac{1}{4}$ W J N	1
R620	3009154273	RES CF 150K $\frac{1}{4}$ W J N	1
R601	3009184273	RES CF 180K $\frac{1}{4}$ W J N	1
R606, R616, R619	3009224273	RES CF 220K $\frac{1}{4}$ W J N	3
R602	3009684273	RES CF 680K $\frac{1}{4}$ W J N	1
C606, C618	3409247871	CAP E 0.47uF 50V	2
C612	3409210971	CAP E 1uF 50V	1
C602, C613, C616	3409233971	CAP E 3.3uF 50V	3
C604, C611, C615	3409247031	CAP E 47uF 16V	3
C614	3409561130	CAP C 560PF 50V J	1
C601	3509181130	CAP C 180PF 50V J	1
C607, C609	3609152120	CAP M 0.0015uF 100V J	2
C603, C608	3609332120	CAP M 0.0033uF 100V J	2
C617	3609562120	CAP M 0.0056uF 100V J	1
C605, C610	3609682120	CAP M 0.0068uF 100V J	2

4003518000 SUB PCB MONITOR 1

IC701, IC702	2168220104	NJM4558D JRC	3
IC703	3009330273	RES CF 33K $\frac{1}{4}$ W J N	2
R701A,B	3009470273	RES CF 47K $\frac{1}{4}$ W J N	2
R705A,B	3009391273	RES CF 390K $\frac{1}{4}$ W J N	2
R703A,B	3009102273	RES CF 1K $\frac{1}{4}$ W J N	2
R704A,B	3009152273	RES CF 1.5K $\frac{1}{4}$ W J N	4
R706A,B	3009473273	RES CF 47K $\frac{1}{4}$ W J N	2
R708A,B	3009334273	RES CF 330K $\frac{1}{4}$ W J N	4
R709A,B	3409210971	CAP E 1uF 50V	2
C706A,B	3409210071	CAP E 10uF 50V	2
C704A,B	3409222041	CAP E 22uF 25V	2
C701A,B, C702A,B	3409247031	CAP E 47uF 16V	4
C705A,B	3509330130	CAP C 33PF 50V J	2
C703A,B	3509560130	CAP C 56PF 50V J	2

4003518100 SUB PCB TALK 1

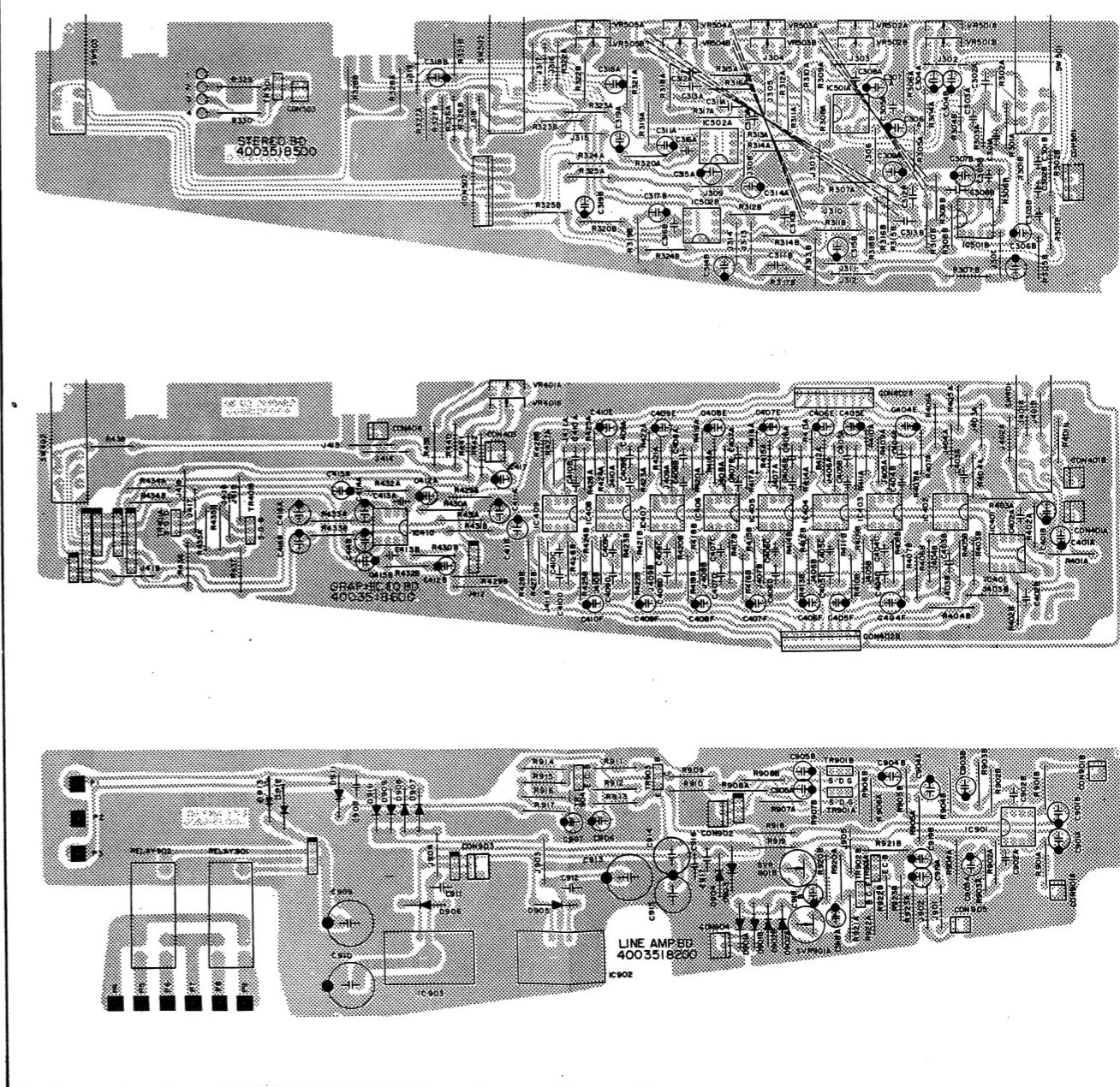
Ref No.	Parts No.	Description	Q'ty
IC801	2168220104	NJM4558D JRC	1
R810, R811	3009470273	RES CF 47K $\frac{1}{4}$ W J N	2
R804	3009102273	RES CF 1K $\frac{1}{4}$ W J N	1
R807	3009152273	RES CF 1.5K $\frac{1}{4}$ W J N	1
R805	3009392273	RES CF 3.9K $\frac{1}{4}$ W J N	1
R809	3009123273	RES CF 12K $\frac{1}{4}$ W J N	1
R802, R803	3009333273	RES CF 33K $\frac{1}{4}$ W J N	2
R808	3009104273	RES CF 100K $\frac{1}{4}$ W J N	1
R801, R806	3009334273	RES CF 330K $\frac{1}{4}$ W J N	2
C808	3409210971	CAP E 1uF 50V	1
C807	3409210071	CAP E 10uF 50V	1
C801, C802	3409222041	CAP E 22uF 25V	3
C803	3409233031	CAP E 33uF 16V	1
C805, C809	3409247031	CAP E 47uF 16V	4
C810, C811	350950930	CAP C 5PF 50V C	1
C806	3509330130	CAP C 33PF 50V J	1

4003518200 PCB LINE AMP 1

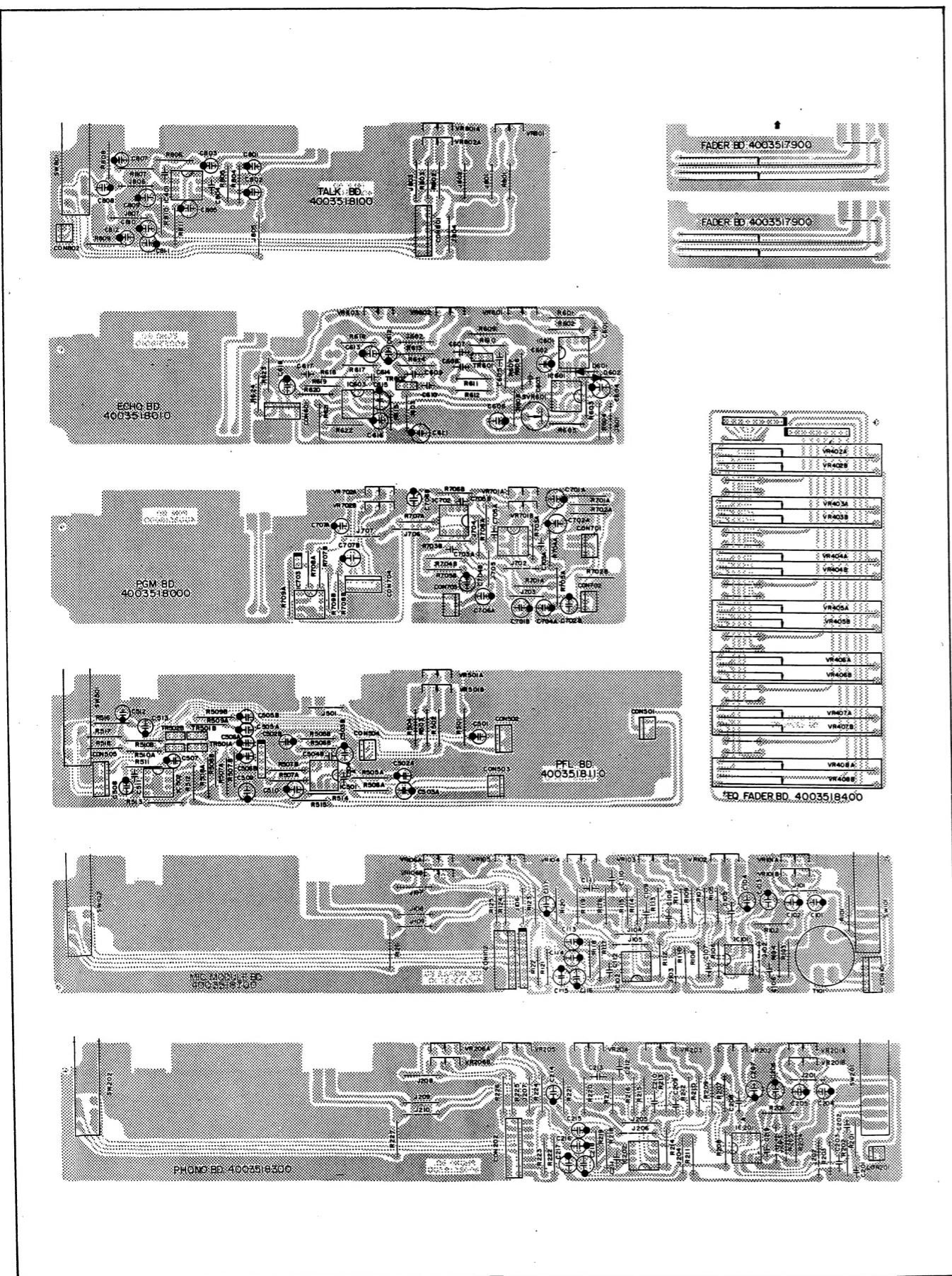
IC901	2168220104	NJM4558D JRC	1
IC902	2168613103	IC UPD 7815 NEC	1
IC903	2168613102	IC UPD7915 NEC	1
TR901A,B	2018207110	FET N-CH 2SK30 TMY	2
TR902A,B	2008206104	TR NPN KTC1815Y KEC	3
TR903, TR904	2008606105	TR PNP KTA1015Y KEC	1
D901A,B,	2058010100	DIODE IN60 FAIR MATSU	4
D902A,B	2058106100	DIODE RECTIFIER 1N4002	11
D903, D904,	2058106100		
D905, D906,			
D907, D908,			
D909, D910,			
D911, D912,			
D913			
RELAY901, 902	5528001150	RELAY VB-24B 24V DC TAKAMI	2
SVR901A,B	3248310320	RES SEMI CS 10KB 10/5	2
R912, R918,	3009470273	RES CF 47K $\frac{1}{4}$ W J N	3
R919			
R905A,B,	3009101273	RES CF 100K $\frac{1}{4}$ W J N	4
R922A,B			
R901A,B,	3009102273	RES CF 1K $\frac{1}{4}$ W J N	4
R903A,B			
R902A,B,	3009222273	RES CF 2.2K $\frac{1}{4}$ W J N	4
R920A,B			
R909, R917	3009472273	RES CF 8.2K $\frac{1}{4}$ W J N	2
R923A,B	3009822273	RES CF 4.7K $\frac{1}{4}$ W J N	2
R906A,B,	3009103273	RES CF 10K $\frac{1}{4}$ W J N	4
R915, R916			
R904A,B	3009473273	RES CF 47K $\frac{1}{4}$ W J N	2
R921A,B	3009563273	RES CF 56K $\frac{1}{4}$ W J N	2
R911, R914	3009823273	RES CF 82K $\frac{1}{4}$ W J N	2
R913	3009104273	RES CF 100K $\frac{1}{4}$ W J N	1
R907A,B,	3009224273	RES CF 220K $\frac{1}{4}$ W J N	3
R910			
R908A,B	3009335273	RES CF 3.3M $\frac{1}{4}$ W J N	2

Ref No.	Parts No.	Description	Q'ty	
C914, C915	3409247131	CAP E 470uF 16V	2	
C909, C910,	3409247141	CAP E 470uF 35V	3	
C913				
C902A,B	3509330130	CAP C 33PF 50V J	2	
C908	3509103450	CAP C 0.01uF 500V P	1	
C911, C912	3509104530	CAP C 0.1uF 50V Z	2	
C916, C917	3609104120	CAP M 0.1uF 100V J	2	

TOP VIEW OF P.C. BOARDS

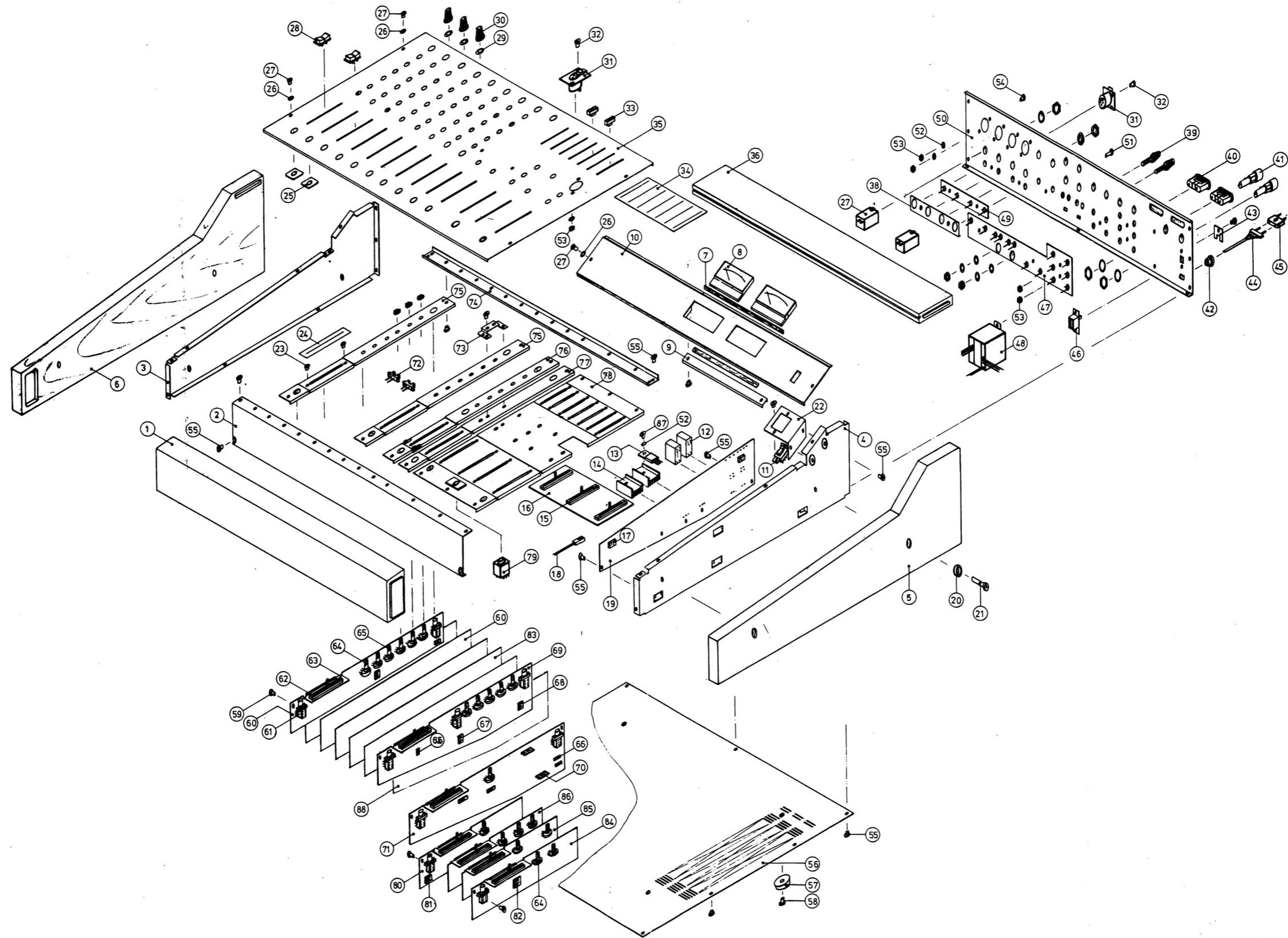


PRO MX-1200 Parts List According to Exploded View

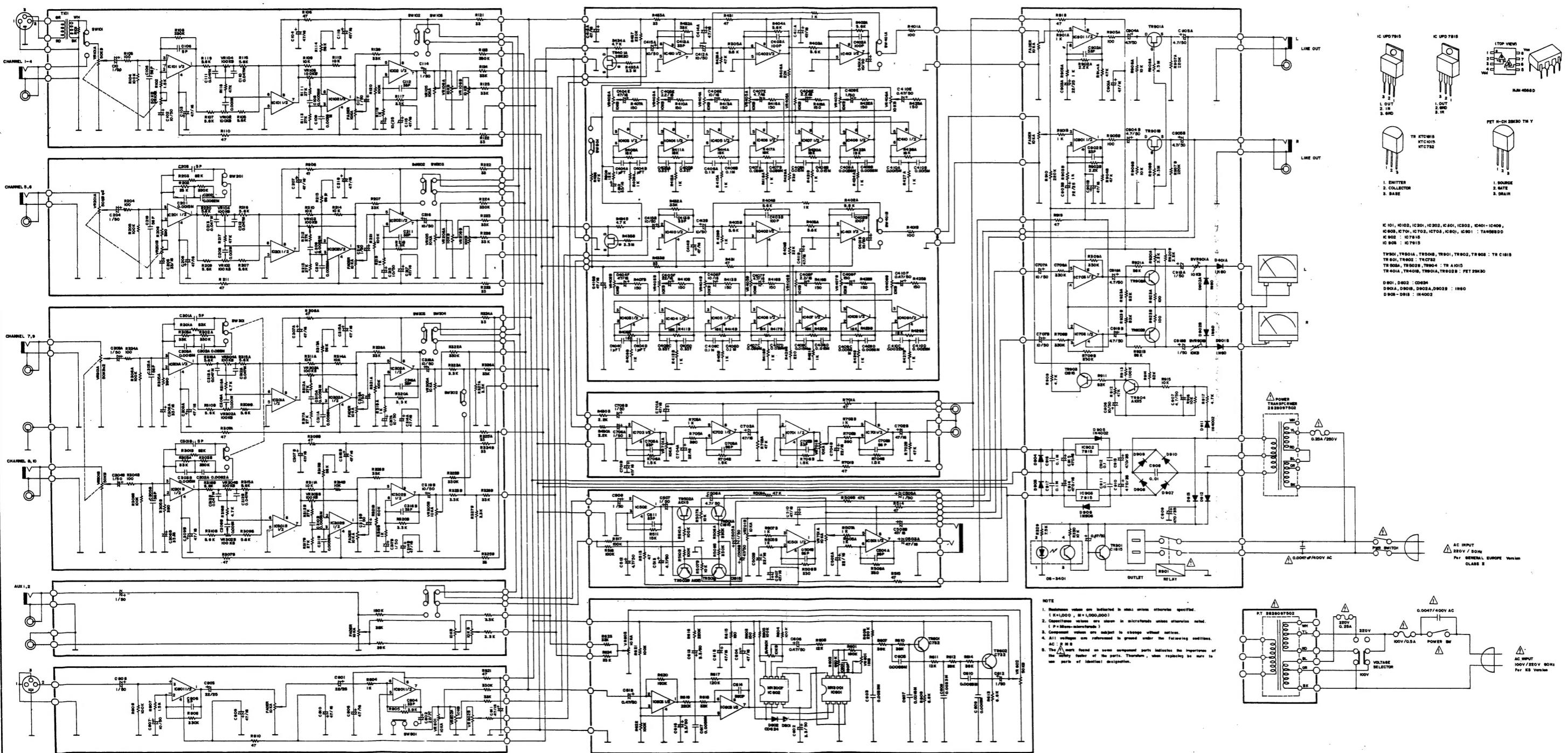


NO.	DESCRIPTION	PARTS NO.	Q'TY
1	FRONT WOOD	8602399810	1
2	CHASSIS FRONT	6122299110	1
3	FRAME SIDE (L)	6122697410	1
4	FRAME SIDE (R)	6122697310	1
5	PLATE WOOD (R)	6122697210	1
6	PLATE WOOD (L)	6122697110	1
7	RUBBER SPONGE	6715001310	2
8	METER	5328001130	2
9	METER BRACKET	6503997410	1
10	PANEL METER	8602995910	1
11	SWITCH LOCKER	4648000410	1
12	RELAY VB-24MB 24V	5528001150	2
	DC TAKAMI		
13	IC UPD7815 NEC	2168613103	2
14	HEAT SINK	7505201110	2
15	SLVR 45L 10KB x 2	3238099310	7
16	EQ FADER PCB	4003518400	1
17	SPONGE	6715001520	3
18	CONNECTOR ASS'Y 2P	4355997610	1
19	LINE AMP PCB	4003518200	1
20	WASHER CABINET	6305000520	4
21	SCREW BM 4 x 24B	8009140243	4
22	SWITCH BRACKET	6502999410	1
23	SCREW BM 2 x 3Y	8009120031	38
24	STRIP FELT	6735002310	13
25	PUSH BEZEL	8525999710	22
26	WASHER VINYL	8305001410	6
27	SCREW PM 2.6 x 6B	8019126063	6
28	KNOB SLIDE	8543000711	13
29	FELT STRIP	6735002010	55
30	KNOB CONTROL	8545999210	55
30-1	CAP KNOB BLUE	8555999910	8
30-2	CAP KNOB GREEN	8555999920	8
30-3	CAP KNOB RED	8555999930	8
30-4	CAP KNOB BLACK	8555999940	31
31	CANON CONNECTOR	4358999610	5
32	SCREW RF 3 x 10N	8009130104	10
33	KNOB SLIDE	8543002910	7
34	STRIP FELT	6735999410	1
35	PANEL FRONT	8601999810	1
36	DECORATION WOOD	8623999910	1
37	MIC JACK	4438000120	14
38	JACK BRACKET	6505996910	1
39	SYSTEM GND	4463100210	2
40	OUTLET AC	4448100410	2
41	FUSE HOLDER	4458000220	2

EXPLODED VIEW OF CABINET AND CHASSIS



SCHEMATIC DIAGRAM



BLOCK DIAGRAM

